THE AMINO ACID SEQUENCE OF HPV 11 L2 MINOR CAPSID PROTEIN

MKPRARRKRASATQLYQTCKATGTCPPDVIPKVEHTTIADQILKWGSLGVF FGGLGIGTGAGSGGRAGYIPLGSSPKPAITGGPAARPPVLVEPVAPSDPSIVSLI EESAIINAGAPEVVPPTQGGFTITSSESTTPAILDVSVTNHTTTSVFQNPLFTEPS VIQPQPPVEASGHILISAPTITSQHVEDIPLDTFVVSSSDSGPTSSTPLPRAFPRPR VGLYSRALQQVQVTDPAFLSTPQRLVTYDNPVYEGEDVSLQFTHESIHNAPD EAFMDIIRLHRPAITSRRGLVRFSRIGQRGSMYTRSGQHIGARIHYFQDISPVTQ AAEEIELHPLVAAENDTFDIYAEPFDPIPDPVQHSVTQSYLTSTPNTLSQSWGN TTVPLSIPSDWFVQSGPDITFPTASMGTPFSPVTPALPTGPVFITGSDFYLHPTW YFARRRKRIPLFFTDVAA (SEQ. ID. No. 1)

THE AMINO ACID SEQUENCE OF HPV 6B L2 MINOR CAPSID PROTEIN

MAHSRARRKRASATQLYQTCKLTGTCPPDVIPKVEHNTIADQILKWGSLGVFFGGL GIGTGSGTGGRTGYVPLQTSAKPSITSGPMARPPVVVEPVAPSDPSIVSLIEESAIINAG APEIVPPAHGGFTITSSETTTPAILDVSVTSHTTTSIFRNPVFTEPSVTQPQPPVEANGHI LISAPTVTSHPIEEIPLDTFVVSSSDSGPTSSTPVPGTAPRPRVGLYSRALHQVQVTDPA FLSTPQRLITYDNPVYEGEDVSVQFSHDSIHNAPDEAFMDIIRLHRPAIASRRGLVRYS RIGQRGSMHTRSGKHIGARIHYFYDISPIAQAAEEIEMHPLVAAQDDTFDIYAESFEPG INPTQHPVTNISDTYLTSTPNTVTQPWGNTTVPLSLPNDPFLQSGPDITFPTAPMGTPFS PVTPALPTGPVFITGSGFYLHPAWYFARKRRKRIPLFFSDVAA (SEQ. ID. No. 2)

THE AMINO ACID SEQUENCE OF HPV 16 L2 MINOR CAPSID PROTEIN

MRHKRSAKRTKRASATQLYKTCKQAGTCPPDIIPKVEGKTIAEQILQYGSMGVFFGG LGIGTGSGTGGRTGYIPLGTRPPTATDTLAPVRPPLTVDPVGPSDPSIVSLVEETSFIDA GAPTSVPSIPPDVSGFSITTSTDTTPAILDINNTVTTVTTHNNPTFTDPSVLQPPTPAETG GHFTLSSSTISTHNYEEIPMDTFIVSTNPNTVTSSTPIPGSRPVARLGLYSRTTQQVKVV DPAFVTTPTKLITYDNPAYEGIDVDNTLYFSSNDNSINIAPDPDFLDIVALHRPALTSR RTGIRYSRIGNKQTLRTRSGKSIGAKVHYYYDLSTIDPAEEIELQTITPSTYTTTSHAAS PTSINNGLYDIYADDFITDTSTTPVPSVPSTSLSGYIPANTTIPFGGAYNIPLVSGPDIPIN ITDQAPSLIPIVPGSPQYTIIADAGDFYLHPSYYMLRKRRKRLPYFFSDVSLAA (SEQ. ID. No. 3)

PCT/US2004/000196

THE AMINO ACID SEQUENCE OF HPV 33 L2 MINOR CAPSID PROTEIN

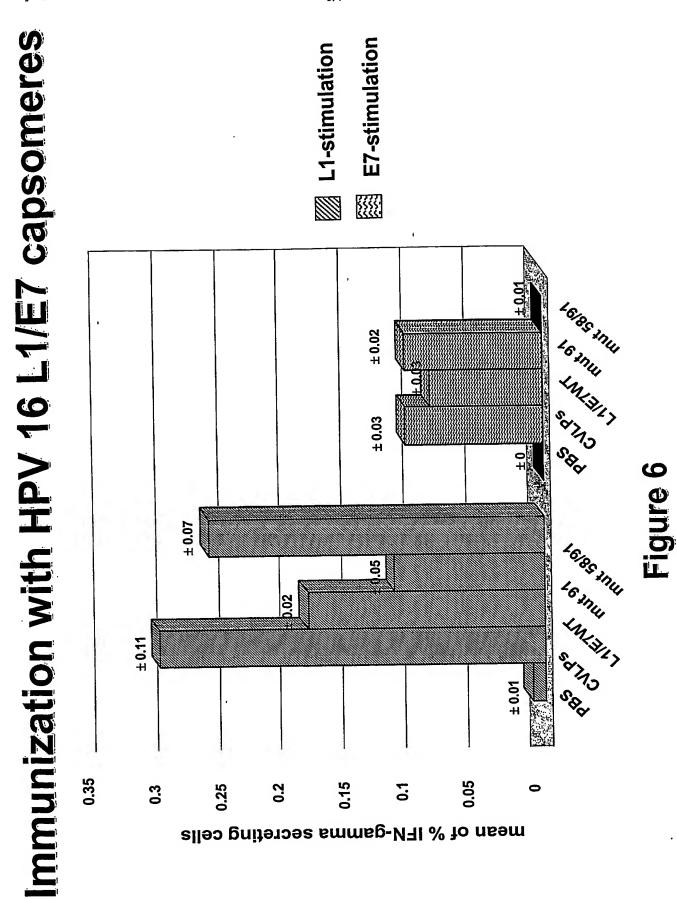
MRHKRSTRRKRASATQLYQTCKATGTCPPDVIPKVEGSTIADQILKYGSLGVFFGGL GIGTGSGSGGRTGYVPIGTDPPTAAIPLQPIRPPVTVDTVGPLDSSIVSLIEETSFIEAGA PAPSIPTPSGFDVTTSADTTPAIINVSSVGESSIQTISTHLNPTFTEPSVLHPPAPAEASGH FIFSSPTVSTQSYENIPMDTFVVSTDSSNVTSSTPIPGSRPVARLGLYSRNTQQVKVVD PAFLTSPHKLITYDNPAFESFDPEDTLQFQHSDISPAPDPDFLDIIALHRPAITSRRHTVR FSRVGQKATLKTRSGKQIGARIHYYQDLSPIVPLDHTVPNEQYELQPLHDTSTSSYSIN DGLYDVYADDVDNVHTPMQHSYSTFATTRTSNVSIPLNTGFDTPVMSGPDIPSPLFPT SSPFVPISPFFPFDTIVVDGADFVLHPSYFILRRRRKRFPYFFTDVRVAA (SEQ. ID. No. 4)

PCT/US2004/000196

44 Residue L2 domain Required for L1 Binding

| | 39) | 43) | (22) | (49) | (86) | (80 | (80 | (60) | (09) |
|---|--|---|--|--|--|---|---|--|---|
| | 4-96E) | (400-443) | (412-4 | (406-4 | (455-4 | (466-5 | (466-5 | (459-5 | (410-4 |
| • | SGPDITFPTASMG-TPF4PVTPALPTGPVFITGSDFYLHPTWYFA- (396-439) | SGPDITEPTAPMG-TPFSPVTPAL PTGPVFITGSGFYLHPAWYFA- (| SGPDIPINITDQA-PSL1PIVPGSPQYTIIADAGDFYLHPSYYML- (412-455) | SGPDIPSPLFPISSPFV-PISPFFPFDIIVVDGADFVLHPSYFIL- (406-449) | TSLHVYYPNSSKGT PIINPEESF-TPLVIIALNNSTGDFELHPSL (455-498) | KGYYVAYPESRNNAEII YPTPDIFVVIIHHDNTGDFYLHPSL (466-508) | QGYYVAYPEHRNTAEILAPTPDIPWVVIHTHDNSGDFYLHPSL (466-508) | EGVHIIHPGSRSD-FWLHPVTPDSTPAIVIDILDSSADYYLHPSLI (459-503) | PDIYSASPVIDPDSIS-PSIVIDDITITHIIIDGHIVDLYSSNYTLHPSLL (410-460) |
| 4 | * SGPDITFPTASMG-TPF4F | SGPDITFPIAPMG-TPFS | SGPDIPINITDQA-PSLI | SGPDIPSPLFPTSSPFV- | TSLHVYYPNSS KGT - | KGYYVAYPESRNNAEIIY | QGYYVAYPEHRNTAEII | EGVHI IHPGSESD-FWLE | PDTYSASPVTDPDSTS- |
| | HPV11 | HPV6b | HPV16 | НРУЗЗ | * * HPV1a | * HPV5 | * HPV12 | * COPVI | * * BPV1 |

hydrophobic region between conserved prolines



Regression of HPV 16 positive tumors

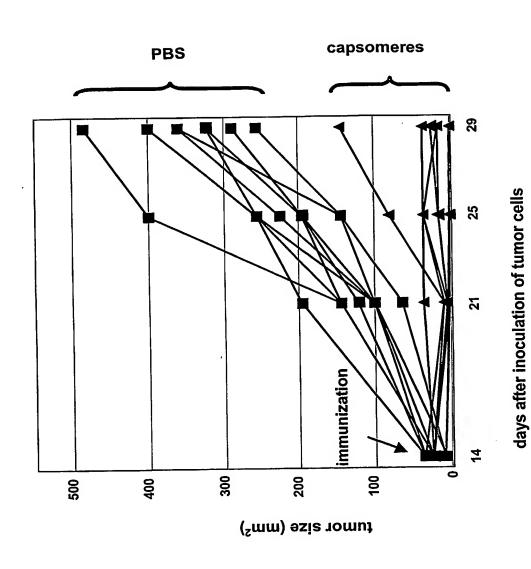


Figure 7

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